Appendix A
Response/Consideration to Comments on the Indian Valley Restoration Project

A 30-day comment period was initiated to provide an opportunity for the public to provide early and meaningful participation on the proposed action prior to a decision being made by the Responsible Official. Those who provided comments during this comment period are eligible to appeal the decision pursuant to 36 CFR part 215 regulations.

The following individuals and groups responded to the Preliminary Environmental Assessment (PEA) sent out in August 2010: Donald Jardine, Alpine County Board of Supervisors (ACBS) Melanie Sue Bowers, Alpine Sportsmans Club (ASC), Karen Schambach, Center for Sierra Nevada Conservation (CSNC), Debbi Waldear, Friends of Hope Valley (FHV), , Craig Thomas, Sierra Forest Legacy (SFL), and Sandy Bryson, Alpine County resident (SB).

Their comments are listed below grouped into general areas of comment/concern.

Support of the Project

CSNC, FHV, SFL, SB
Comment/Question: These groups and individuals are generally supportive of the project, and its purpose and need.

Road and Trail

ACBS, ASC
Comment/Question: Why "post project" could the existing road/trail function as a road/trail? Relationship of the road closure to the project? Why is the road closed to public use, and open to administrative use?

The decision to allow public motorized use of trail is beyond the scope of this project. Travel management was not analyzed in this EA. As described within the EA page 4 "The design assumes the existing 4-wheel trail in the meadow, 19E04 , will remain post project. That portion of the trail , (<.25 miles), to be impacted by the restored water table would be filled/surfaced with rock back to existing meadow elevation to reduce resource damage, and would remain serviceable into the future for vehicular traffic. "

ASC
Comment/Question: Why is this (Indian Valley Restoration Project) listed as the only project in the area? Was the project always tied to the road closure?

At the time of the planning and analysis of the Indian Valley Restoration Project the only known proposed action is the plug and pond meadow restoration. The decision to close the road to public use was the result of a separate decision, the Final Travel Management Record of Decision (2008), and was not part of this project.

ASC
Comment/Question: Will the USFS close the area and bar the public from access?

The road/trail 19E04 is presently closed to motorized public use under the 2008 travel management decision. Beyond the existing vehicle closure, no foot traffic or other non-motorized closure to the public is anticipated.

Scoping and Public Involvement

ACBS
Comment/Question: The County feels that a genuine comment period would include the ENF engaging in a dialogue with interested parties to obtain their input, include the sportsman groups and individuals who own property in the vicinity. Local residents and interested parties should be notified/involved in the project.

Interested individuals, groups and landowners have been engaged in dialogue before scoping was initiated, throughout the scoping period, with the Preliminary Environmental Analysis release, and the dialogue is continuing. See the Summary of Public Contacts, Appendix B.

The public involvement section of the EA, page 3, has been updated to reflect who was contacted and general topic. Local groups and interested individuals were included in scoping and the comment period (mailing/contact lists available in the project record).

ACBS, ASC
Comment/Question: Alpine County Supervisors request the project be put on hold, until there is consensus and/or agreement among Forest Service scientists that the project is necessary. Scientific experts (not named) within the United States Forest Service do not concur as to the necessity of the project. Pictures attached, Indian Valley is a thriving area and does not need this extent of restoration. Peer review requested (off the Eldorado) of project and meadow status.

If available, please share the report from the Forest Service scientist. We are not currently aware of any scientific report suggesting the Indian Valley project is not necessary. Experts in this type or restoration, both from the Eldorado, other National Forests, consulting firms, have been involved in the design, analysis, and

review of the project since its inception. Additionally, an interdisciplinary team of USDA Forest Service employees analyzed project effects to ensure the project would not result in significant impacts. We are not aware of dissenting scientific opinion brought forward from internal or external scoping and review through the NEPA process.

ASC

Comment/Question: Scoping period, SOPA project status, and legality of the scoping period. Project was listed on hold in SOPA in July, August 27th was response to comment date. Was the public allowed/encouraged to respond?

The public was invited to visit the Indian Valley project as part of a route designation field trip on October 14, 2006. The project proposal was discussed during this field trip as well as through scoping, 2008, and the preliminary environmental assessment (PEA) , 2010. A public notice of the proposed project was released with a PEA, August 2010, was listed in the paper of record, the Mountain Democrat. Numerous individuals and groups including the Alpine Sportsmans Club, commented on the project at various times throughout the process to date. (contact/mailing lists are available in the project record). All notification and time frames for scoping and comment conform to NEPA standards for this project. See Appendix B, Summary of Public Contacts.

ASC

Comment/Question: USFS stated the project has been in the SOPA since January 2006, not according to this groups copy of the SOPA. Why is the project list as "on hold" on the SOPA list since 2009?

The 2006 date in the EA was in error and has been corrected the project originally was posted to the July 2007 SOPA, EA page 3. Project was put "on hold" until the project design was completed, at which time the PEA was put together and released for public comment, the SOPA was updated October 2010, to reflect the project status change. The SOPA for this project was most recently updated April 2012.

ASC

Comment/Question: Materials not delivered, field meetings not held with Alpine Sportsmans Club, project was not discussed in the field.

Melanie Sue Bowers, representative of the Alpline Sportsmans Club and the Indian Valley project leader and Amador District Ranger, as well as other public groups and individuals, did meet in the field early on in project development. This field trip was a combined meeting discussing the then in process travel management project (October 14th, 2006). The scoping notice and additional requested maps and materials were mailed to Mrs. Bowers/Alpine Sportsmans Club, January and April

of 2008 for this project. Additional conversations, correspondence were held between Ms.Bowers and the Eldorado National Forest employees in relation to the project throughout the projects life. One field meeting was scheduled and cancelled by mutual agreement with Alpine County Supervisors, due to weather (Fall 2008). During the comment period on the EA (August –September 2010) a couple of meeting dates were scheduled with Mrs. Bowers and individuals unnamed from the Alpine County Board of supervisors and cancelled due to scheduling conflicts. A more complete list of public contacts is available in the project record, with date, attendees, and general topic information. See Appendix B, Summary of Public Comments.

The Schedule of Proposed Actions (SOPA) for the Eldorado National Forest displays a list of projects proposed so that any interested individual or group can participate in the public involvement process for any of the projects listed on the SOPA. This project has been included in the SOPA since July 2007, and updated as the project status changed.

ASC

Comment/Question: Why was resource analysis being conducted while listed as "on hold" according to the SOPA? Why was the public shut out of the analysis?

The analysis of the proposed projects affects was conducted concurrently with the development of the EA, and integrated into that document and associated project record. This process is not driven by SOPA project status; rather, the SOPA is used to inform the public regarding project status.

Scope Related Comments

ACBS, ASC

Comment/Question: The scope of the project has grown/changed since inception. How is it detailed when it went from 5-8 ponds to 27-34 ponds?

Internal scoping determined that the project would be more successful, and better meet the purpose and need with the extension of the project up and down stream. The proposed treatments were refined and elaborated during the environmental analysis process, but the purpose and need and restoration objectives remained the same as the project that was scoped to the public.

ASC

Comment/Question: Reports of past management damage to resources. Why was this not provided during travel management?

Travel management was not include in the scope of this analysis.
As stated in the EA, page 2-3, the purpose for the Indian Valley Restoration Project is to:

- **Improve meadow ecosystem function.**
- **Maintain and enhance plant and wildlife habitat.**
- **Continue to provide a clean and consistent water supply for human use in various forms.**

ASC
Comment/Question: Where are the boulders coming from in the project area? If outside of project area does this expand the project? Will the project disturb areas outside of the project area?

Rock required for plug material or other aspects of the project, would come from the quarry located at Tragedy Springs, above Silver Lake, and utilize existing stockpile of stored rock, as stated in proposed action in the EA, page 4. This is not considered to expand the project area, and as the material would come from an existing quarry no disturbance to any undisturbed areas would occur.

ASC
Comment/Question: If non-native soils are brought in, is it truly restoration or creation?

No soil from off site is planned to be used, with the exception of rock previously discussed, materials are expected to be available for use within the area analyzed in the EA.

ASC
Comment/Question: How much will the conceptual design differ when placed on the ground? Does the 404 permit allow a free hand to change design in the field? Since the scope of the project has changed (enlarged), how can FS be trusted in relation to changes?

Small scale, measured in 1-5' changes to the mapped and flagged design may occur during implementation depending on conditions found during implementation. The Army Corps permit does allow field modifications to plug shape and height to accommodate field conditions but the project location and area will not change. The project evolved through the scoping process, both internal and external. The purpose and need drove the changes to achieve the results of the project. The scope of the project would not be expected to enlarge beyond what is presented in the EA.

ASC
Comment/Question: Construction time frame or date? When is "post project" time frame of date?

Implementation is anticipated to beginning fall of 2012. Post project would be after the plugs and ponds are in place, fall of 2012, although monitoring and vegetation work would continue into 2013.

ASC
Comment/Question: Can the project be abandoned after 5 years based on the temporal scale quoted? Can the scope be changed after 5 years if it has not met goals and expectations? If the project did change at that point would new project approval (decision) be necessary?

The project would not be planned for abandonment. Maintenance or repair of the project, as necessary, would be expected to occur as with any new project. The plan is that the project, after 5 years, will be functioning as a healthy stream/meadow system and that repair would be minimal to non-existent through time. Future actions in the area, beyond what has been analyzed for this project, would be analyzed and receive appropriate NEPA documentation and new decision.

ASC
Comment/Question: What is the USFS responsibility/plan for care and maintenance of the project area into the future? If the project fails, or does not function as desired?

The project is designed not to fail and the area will be maintained. Should there be a failure it will be addressed to correct the failure.

ASC
Comment/Question: Will the project correct the stream diversion at the north side of the meadow?

This project will not change the existing water rights, and named diversion. That portion of the meadow is outside of the project area for this proposed restoration, and is beyond the scope of this project as described and analyzed in the EA.

Hydrology, Water, Soils, Visuals

ASC
Comment/Question: Stream channel erosion and headcuts, how did recent flooding affect these areas? Effects of the 1997 storm on the meadow/stream, was it monitored, and can this type of storm event be repeated?

High water events, and spring runoff potentially speed the erosion at existing headcuts, resulting in more downcut stream channel. No formal monitoring of the

1997 storm impacts was conducted, but district staffs who visited the valley did note impacts from this storm. Storms of this type can and will occur in the future.

ASC
Comment/Question: How much has the ground water lowered in the last 10-15 years? How much has the ground water lowered last 10 years, what is the ground water change over the last 15 years?

Direct groundwater elevation measurements from piezometers are currently being collected. Unfortunately historic data does not exist to answer this question.

ASC
Comment/Question: "How has the 2ft to 10ft deep natural water course to the north with no erosion running through the valley effected the water table."

Head cutting and gullying are common responses to changes in channel gradient, water quantity, or sediment volume due to either natural events or human activities. These processes continue until the stream has re-established its equilibrium, which can take decades. The proposed project will raise the water table primarily in the middle and southern portions of the valley and will have little impact on the stream channels in the northern portion of the valley.

ASC
Comment/Question: How will the dry creek to the north affect raising water tables?

All downcut stream channels in the valley have lowered the groundwater table due to the processes described above. The proposed project will raise the water table primarily in the middle and southern portions of the valley and will have little impact on the stream channels in the northern portion of the valley.

ASC
Comment/Question: Has permit 404 Army Corp been acquired yet? Permit number?

A 404 permit has been acquired under Nationwide Permit #27.

ASC
Comment/Question: If in channel sedimentation is a problem, will USFS stop the creek flow until the ponds are full?

Construction begins at the upper part of the project area, allowing work to continue downstream in a drier environment, EA page 5. Ponds will fill and spill as they are constructed, minimizing sedimentation during project implementation.

ASC

Comment/Question: If sedimentation in the stream channels is a concern, won't the plugs and ponds increase sedimentation?

Sedimentation during construction would be reduced to a minimum through the use of Best Management Practices, EA page 5. As stated in the EA, flow in the creek may be diverted during plug construction. Construction will begin at the upstream end so that upstream plugs will stop water flow while the pond fills. Once the ponds and plugs are in place, these ponds act as sediment traps and capture the sediment, reducing sediment delivery downstream from the project. Over time these ponds are expect to fill with the captured sediment, and become vegetated meadow, floodplain, and riparian habitat.

ASC
Comment/Question: Why doesn't the jobsite have to be returned to its original condition?

The EA, page 6, states "Following completion of construction activities, the job site would be returned, as much as is reasonably practical, to its original condition." The project is intended to improve, water quality, habitat conditions, and watersheds function. This will result in some areas where the original condition is not consistent with project goals.

ASC
Comment/Question: How much of the valley would hydrate due to project implementation?

Most of the effects of deeper groundwater are in the middle to northern portion of the valley. Some higher elevation floodplains in the southern portion of the project area are also affected. The proposed project would be anticipated to affect approximately 500 acres, EA page 9.

ASC
Comment/Question: Will the plug at the road crossing be to the height of the adjacent valley floor? How deep are the ponds, and tall the plugs proposed? Highest dam/plug from streambed to crest? How much will the water table rise? Does the Corp of Engineers consider a plug a dam?

The plug at the road crossing will extend to the height of the floodplain, which is part of the valley floor. As stated in the EA, page 4, plugs will be 1 to 4 feet high, which will create ponds from 1 to 4 feet deep. Plugs are not dams, they are designed to divert or slow stream flow, not to stop it completely.

ASC

Comment/Question: Is the project intent to retain most if not all the water upstream of this project during construction? Downstream effects to species during construction? Will the project disrupt and historic water flow?

The proposed project will not stop water flow. The first plug will contain flow as subsequent downstream plugs are being constructed (BMP 2.8). EA page 5. Overall flow volume will be similar to historic levels. The proposed project will extend the period of higher spring/summer runoff and potentially increase base flow.

ASC
Comment/Question: When was main channel rocked to reduce sedimentation?

Rock was placed in the first stream crossing in the valley, sometime in the late 1990's early 2000's by USFS Construction and Maintenance crews. There is a pile of rock from this treatment stored nearby and pictured in the commenter's letter which was stored for future use as needed (2nd from top, left side of page, first page of photos Alpine Sportsmans comment letter Sept. 2010).

ASC
Comment/Question: Why did the EA say "work will be done in the dry season, whenever maintain water flow, water quality or water temperature, critical to sustaining bog fern ecosystems and plant species that depend on these ecosystems?" (SNFPA ROD Appendix A-58)"

The EA states "Following completion of construction activities, the job site would be returned, as much as is reasonably practical, to its original condition. Excavation and river bed disturbance would be done in the dry season (late summer to fall) whenever possible. All environmental mitigation measures stipulated by water quality permits would be implemented in a timely manner. All equipment and surplus materials would be removed from the site." EA page 6. The reason for working during the fall, lower flow, dry season, is to reduce the impacts that would occur when the stream is flowing higher, and implementing the water quality and soil retention design criteria would be much more difficult, and may compromise the project results. In reference to Appendix A-58 appears to be taken from the 2001 Appendix A SNFPA ROD. This refers to bogs and fens and other special aquatic features. No bogs or fens are present within the project area, and therefore no effects would be anticipated from project implementation on these special features, regardless of time of year.

ASC
Comment/Question: Does proper functioning condition (PFC) take into account 100 year events (1996-1997 event)? Where in the EA is 100 year event and effects discussed?

A proper functioning stream and meadow system can withstand a large flood event by accessing the floodplain, however, PFC generally considers a large event to be in the 20-30 year recurrence interval. This project is intended to reconnect the stream with that floodplain so that it can absorb the water and energy of a flood event with little to no long term damage to the resources.

ASC
Comment/Question: Why aren't natural forces, including the storm events of 1997 listed as a part of the cause for Indian Valley's present state?

As described in the EA, page 2 "The state of the meadow today is a result of past human activities and natural processes." *(emphasis added)* "It is difficult, if not impossible, to assign certain past actions to either an amount of damage, or an entire area of damage as these past activities have worked in a cumulative manner over time." EA page 8. The 1997 rain on snow event is included in the analysis of the current state of the valley.

ASC
Comment/Question: How many years has this creek been studied? What will be the downstream affects when water flows are reduced or prematurely stopped? How will downstream affects (death, destruction, of animal and plant life) be mitigated from the changes to stream flow?

This area has been surveyed and monitored over the last 50 years. First it was for range condition, and in the 1980-1990's to improve watershed condition and to determine species presence. As stated in the EA, flow in the creek may be diverted during plug construction. Construction will begin at the upstream end so that upstream plugs will stop water flow while the pond fills. This could result in flow reduction for the duration of the construction. Additional surface and subsurface will continue from that portion of the watershed outside of the project area.

ASC
Comment/Question: Substantiate the claim that under the no action alternative there is potential for ongoing channel incision, stream bank erosion, meadow dewatering, and sediment generation within the incised stream channels.

Members of the project analysis team have seen, and continue to see, ongoing evidence of channel incision, stream bank erosion and sediment generation. Meadow dewatering occurs as the water table drops, which occurs with channel incision, and is continuing to occur. There has been recovery of some areas within Indian Valley from the 1997 storm events.

ASC

Comment/Question: What effect have the two large "natural gully's" (west and south of the creek) had on the water table? Will the ponded water back up into these areas? Are these gullies assigned the same degraded conditions as the proposed treatment channel?

These gullies have a dewatering affect and lower the surrounding water table. The proposed ponding would not inundate the short grass meadow drained by these gullies as these gullies are higher on the slope. The proposed project will result in surface water backing up a short distance into the gullies. The project is expected to slow erosion and incision of these gullies by reducing the vertical drop from these channels into the creek channel.

ASC
Comment/Question: Is stream channel erosion with gulling and head cutting a natural occurrence?

Head cutting and gullying are natural responses to changes in channel gradient, water quantity, or sediment volume due to either natural events or human activities. These processes continue until the stream has re-established its equilibrium. All downcut channels are part of the meadow and stream degradation.

ASC
Comment/Question: How will the views cape be protected on this project?

During construction and immediately after there will be some visual affect from the plug and pond construction. Past experience with plug and pond projects on the Tahoe National Forest and Feather River Watershed have shown extremely fast recovery of vegetation, and improved visual setting with the increased water available to the plants.

Wildlife, Aquatic Organisms

ASC
Comment/Question: There is a discrepancy between previous reports on willow flycatcher, yellow-legged frog (Sierra Nevada yellow-legged frog), and Yosemite toad sightings.

The EA was updated using internal specialist reports with information gathered to the date of the EA's release to the public. One purpose of internal and external (public) scoping is to identify and utilize unknown information. The latest survey data was reviewed and reflected in the final EA for this project, the reports are included in the project record.

ASC

Comment/Question: Why affect/remove the fish, and there is no existing barrier? Is there evidence of fish stocking in the streams associated with the project? Isn't the fish shocking (trout removal) going to kill Lahonton cutthroat trout? What will happen to downstream fish population? How will small fish escape larger fish in the shallows?

The proposed action no longer includes fish removal, or a placement of a fish barrier. The trout stocking likely originally occurred further downstream and the trout swam upstream into Indian Valley. For instance, the Blue Lakes are stocked with trout. Historically, most streams were stocked by man with trout in the Sierras. The trout in Indian Valley are rainbow trout, not Lahontan cutthroat trout. Since this project will not be removing the trout, the downstream populations will likely remain and may benefit from improved aquatic habitat in Indian Valley after project implementation. Escape cover in the treatment area would be available for smaller fish, post project implementation.

ASC
Comment/Question: The statement (EA) that no comments were received related to fish and fishing is incorrect. This commenter requested a fish study which they did not receive and asked to discuss the destruction of fish on the ground and was not accommodated. Why did the EA say that no comments were received on this issue?

Scoping comments were reviewed, no comments on recreational fishing were found. No record of a correspondence or request for fish surveys in 2008 was found, surveys can be made available as requested with clarification of what is available at this time.

ASC
Comment/Question: What is the human health and safety effects from removal of fish (West Nile Virus/mosquito control)? What animals are affected by increased mosquitos? Will the project generate an uncontrolled mosquito haven (standing water)?

As fish removal is no longer part of the proposed action, mosquito populations are not anticipated to be greatly affected. As the mosquito population is not expected to be greatly changed, effects to other animals are not expected to change.

ASC
Comment/Question: One frog was located in the 2007 survey, how will the frogs be repopulated? Will there be introductions from other areas? Will the frog (singular) survive implementation, 2007 showed only one frog?

Trout removal is no longer planned as part of the project. At these additional habitat areas, such as shallow edges or isolated ponds where trout do not reside, it is possible that Sierra Nevada yellow-legged frogs may increase somewhat. No

introductions of frogs are proposed with this project. There are healthy and prosperous populations of Sierra Nevada yellow-legged frogs nearby at Tamarack Lake and Little Indian Valley, for instance, which may repopulate Indian Valley from dispersing adult Sierra Nevada yellow-legged frogs, EA, page 15. As described in EA, page 6, the design criteria for Terrestrial and Aquatic Wildlife Species, the project area will be surveyed just before beginning work and any frogs will be moved out of harm's way.

ASC
Comment/Question: Was the toad located in 2007 a Yosemite toad, provide proof? Is that toad still alive? Why is chytrid fungus portrayed as less of a threat than trout to form population?

It is likely that more than one toad resides in Indian Valley, as toads are more difficult to survey for than frogs. Toads have relatively long lives, living up to twelve years, so the toad from 2007 is likely still alive. A genetics analysis has been under taken with the results that were inconclusive, although indicating a likelihood of hybrids with Yosemite and western toad. Another type of genetics analysis needs to be performed to become certain of the results, but these tests are very expensive. USFWS considers hybrids of a threatened or endangered species to also be a protected species. Although chytrid fungus is thought to be one stressor on the frog populations, the chytrid fungus has not been shown to decimate our localized populations as the trout have. The frog populations in our area of the Sierras known to have chytrid fungus have been able to survive with stable populations. Where both species overlap the removal of trout increases Sierra Nevada yellow-legged frog populations, although with this project, we are no longer removing trout.

ASC
Comment/Question: Willows are growing and expanding, how will created barren areas and destroying willow expand habitat for willow flycatcher.

Much of the area being treated does presently have willow, but the stream channel does not presently provide for high quality habitat for the prey species that willow flycatcher and other species feed on. The proposed restoration is expected to improve the vigor of the willow and other riparian vegetation, provide higher quality habitat for willow flycatcher and their prey species, as well as improve water quality for downstream uses.

ASC
Comment/Question: 1 and 1/4 miles of stream are proposed destroyed, how is that restoration? How will organisms in the stream be restored? How many years will it take for the area to recover?

This project is not viewed by the Eldorado National Forest as destructive, but as restorative. As stated in the EA, page 2-3, the purpose for the Indian Valley Restoration Project is to:

- **Improve meadow ecosystem function.**
- **Maintain and enhance plant and wildlife habitat.**
- **Continue to provide a clean and consistent water supply for human use in various forms**.

The project will have both short term (during implementation, and following 1-2 years), and longer term (greater than 2 years) effects on vegetation, stream, and riparian vegetation which will affect habitat for wildlife species. The short term effects will include ground and vegetation disturbance and were disclosed in the EA. The longer term effects are expected to increase both habitat quality and quantity for many of wildlife species and are also disclosed in the EA. These impacts are not expected to completely remove populations of organisms and the area is expected, based on examples of this type of restoration elsewhere, to recover within 1-2 years.

ASC
Comment/Question: Destruction of other habitat for project materials should be listed as part of this project analysis.

No habitat for any of the plant or animal species analyzed for this project are anticipated to be adversely impacted in the acquisition of project materials outside of the area analyzed for the project. As discussed in the EA, page 4, materials from on site will be utilized to a large extent and where other materials are needed from outside of the site, they will be taken from existing stored material the quarry located at Tragedy Springs, which was previously disturbed, and would avoid of these species and their habitats.

ASC
Comment/Question: Why does the BE/BA determine that California wolverine would not be impacted?

California wolverines have not recently been documented in or near the project area. This species is known to avoid roads and trails, as well as human contact when it is present. The moderately high use of the area, and existing road and trail network, coupled with the fact that California wolverine may no longer exist in the Sierra Nevada, resulted in the determination that the project would not impact this species (Terrestrial BE/BA, Loffland 2010, reviewed and supplemented Loffland 2012).

ASC
Comment/Question: Was there any grazing before the sheep and cattle? What about the deer?

There are no records of any domestic grazing previous to the sheep and cattle grazing. As the local populations of Native Americans did not keep or herd domestic grazing animals, it is unlikely that the valley saw grazing by domestic animals previous to the sheep and cattle grazing. Deer use of Indian Valley predates the domestic cattle and sheep grazing, and has continued to the present day.

Heritage Resources and Historical Properties

ASC
Comment/Question: Project puts historical archeological site in jeopardy.

The project was designed to have no adverse effect on Historic Properties in full compliance with the National Historic Preservation Act (36CFR800.5 (b)). Based upon potential impacts to an adjacent archaeological site we modified the original project design to ensure all heritage resources would be protected. A summary of effects to heritage resources is analyzed in the EA, starting on page 17.

ASC
Comment/Question: Provide historical data that the habitat existed, specifically plugs and ponds.

No historical data for a plug and pond exists, as this restoration technique has not been used previously at this location. The proposed plug and pond restoration has objectives to improve meadow function, enhance plant and wildlife habitat, and provide clean and consistent water supply for downstream uses.

ASC
Comment/Question: Will arch sites be destroyed during implementation? Concerned over risk affects to grinding rocks (BRMs) and heritage resources, will project destroy these resource? Is the project in conformance to Section 106. Will the project destroy traditional gathering plants, willows/onions etc…? Where in the FSM does it say that a frog is more important than heritage (resources?) Why was the project expanded into and archeologically sensitive area.

No archaeological sites will be adversely affected during implementation. This project is moving forward with full compliance with Section 106 of the NHPA. Consultation with the Washoe tribe and the State Historic Preservation Officer (SHPO) has occurred. Traditionally gathered plants, such as those described above would continue to persist, and in the case of willow and other riparian species, would flourish with project implementation.

ASC

Comment/Question: Is there proof of anthropogenic alteration of Indian Valley? Documentation?

Yes, project records show past grazing, herbicide use, road and trail use, natural events, and other activities in the valley which are believed to have cumulatively resulted in the degraded state of Indian Valley today. Photos and records are available in the project record.

ASC
Comment/Question: Is the historic dairy at risk of inundation from the proposed project? How will the project limit access to archeological sites? The project analysis states that the project may return the meadow to original setting, on what is this statement based? What was the original setting, and how was that determined?

The historic barn (dairy referenced above) is not at risk of inundation, as it is elevated well above the existing channel and restored flood plain elevation. The cabin and associated features are located approximately 200 meters (660 feet) away from the proposed project activities, EA page 17 .

"The project is also likely to restrict illegal off trail access from trail 19E04 the immediate site area by vehicle. However, the site will still be accessible by foot; therefore the project will not impede access by traditional Native American practitioners or gatherers." Page 3 Heritage Resource Report for the Indian Valley Restoration Project, Whiteman 2012. (Available in the project record)

Historic records referenced in Tortorich and Carmen 2004 described the area as a marsh, and a wet meadow/marsh system is consistent with the exposed stream layers in the downcut banks of the stream. (Available in the project record):

"… this project has the potential to restore the area to a setting similar to that which existed during the era when it was occupied by the Native American inhabitants (Tortorich and Carmen 2004)." Page 3 Heritage Resource Report for the Indian Valley Restoration Project, Whiteman 2012.

Vegetation

ASC
Comment/Question: Project will destroy 1 ¼ mile of "meadow-willow covered basin" and associated wildlife habitat. How will the project affect existing willow?

This project is not viewed by the Eldorado National Forest as destructive, but as restorative. As stated in the EA, page 2-3, the purpose for the Indian Valley Restoration Project is to:

- **Improve meadow ecosystem function.**

- **Maintain and enhance plant and wildlife habitat.**
- **Continue to provide a clean and consistent water supply for human use in various forms.**

The EA states regarding willow "…reductions in willow vigor and biomass would be short term, with the increased water table willow habitat would be expected to expand in size and vigor in the years following the project, potentially improve habitat capability and increasing the potential for this area and surrounding habitat to be utilized by this species for nesting. " EA page 11

Loss of willow from project implementation would be minimal as young vigorous willow will be replanted as part of the restoration, and sprouting from older plants and new starts would take hold in the first year of the project. Revegetation plantings, including willow cuttings are part of the project design.

ASC
Comment/Question: Commenter provided photos show areas of willow increase, and questioned EA claim of loss of willow. Does FS have photos that show change in willow?

In some areas willow has increased as channels have stabilized, such as shown in commenter's photographs. In others sage brush and dry conditions appear to be replacing willow and meadow vegetation as water tables have dropped over time. Amador Ranger District staff has seen increases in willow in many areas, some of which may be attributable to cessation of cattle grazing and the associated reductions in grazing pressure. Photos are available in the project file which shows vegetation changes in the project area and surrounding meadow system.

ASC
Comment/Question: What meadow vegetation is drying out?

Due to the compromised ability of the meadow and riparian zone to absorb spring runoff, and slowly release it, portions of the meadow and riparian areas dry out to a greater extent and earlier than if the stream/meadow system was functioning properly. Areas most susceptible to this drying are those highest above the stream channel levels, especially in areas where the channels have been downcut. Willows, grasses and sedges give way to more xeric plants such as sagebrush, which can be seen in numerous places in the area of the project.

ASC
Comment/Question: How many years of meadow veg. surveys have been conducted? What time of year were vegetation surveys conducted?

Specific vegetation change surveys and measurement data does not exist. The following is what vegetation monitoring has been conducted:

July 1996- willow monitoring.

1997- EA Engineering, Science and Technology company assessed vegetation in general terms and developed the restoration plan. Author noted that willows and other riparian vegetation have recovered since grazing halted in the valley. Exact timing of this work is not recorded, but we assume it occurred between June and October due to snow fall, and plant dormancy.

August 2006- Survey for sensitive plants and noxious weeds .

ASC
Comment/Question: Does the FS have historic photos of sagebrush encroachment? Is sagebrush growth normal over the years? Will the project eradicate sagebrush, how many years?

The District does have photos (in the project file) of areas showing increased sagebrush presence. We do not have data addressing normal sagebrush growth over the years. The project will not eradicate sagebrush from Indian Valley as the scope of the project will not influence enough of the meadow system to eradicate sagebrush within Indian Valley.

ASC
Comment/Question: What funds are set aside for revegetation?
We are currently investigating funding sources to implement the Indian Valley project.